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10/823,653

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EXAMINER

RODRIGUEZ, ARMANDO

ART UNIT

PAPER NUMBER

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NOTIFICATION DATE

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KWANG-KI CHOI and JOON-SEOP KWAK

Appeal 2009-013928
Application 10/823,653
Technology Center 2800

Before MASHID D. SAADAT, THOMAS S. HAHN, and
ELENI MANTIS MERCADER, *Administrative Patent Judges*.

HAHN, *Administrative Patent Judge*.

DECISION ON APPEAL¹

Appellants invoke our review under 35 U.S.C. § 134(a) from the final rejection of claims 1 and 9.² We have jurisdiction under 35 U.S.C. § 6(b).

An oral hearing was held on July 20, 2010. We affirm.

¹ The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or for filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the “MAIL DATE” (paper delivery mode) or the “NOTIFICATION DATE” (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

² The remaining pending claims 2-8 and 10-16 are reported objected to and that they would be allowable if rewritten in independent form to include all base and intervening claim limitations (Final Action, mailed May 11, 2007, p. 3).

STATEMENT OF THE CASE

Appellants claim a semiconductor laser device having a multi-semiconductor material layered mesa structure on a substrate with a lower portion of the mesa structure having rounded corners connected to the substrate.³ Claim 1 is illustrative:

1. A semiconductor laser device, which includes a multi-semiconductor material layered mesa structure having a laser resonance layer on a substrate and cladding layers formed over and below the resonance layer, comprising:

rounded corners connected to the substrate, in a lower portion of the mesa structure;

a current injection ridge formed on an upper portion of the mesa structure and protruding from an upper surface of the mesa structure; and

a passivation layer formed on the mesa structure and having a contact hole exposing an upper surface of the current injection ridge.

The appealed rejection relies on the following prior art reference:

Nakamura	US 6,798,807 B2	Sep. 28, 2004 (filed Dec. 31, 2002)
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The Examiner rejected claims 1 and 9 under § 102(e) as being anticipated by Nakamura.

³ See generally Spec. 6:20-27; 7:19-22; 7:33-8:7; 8:25-28; Fig. 5.

ISSUE⁴

The pivotal issue is whether the Examiner erred in finding that Nakamura explicitly or inherently teaches a lower portion of a mesa structure having rounded corners connected to a substrate.

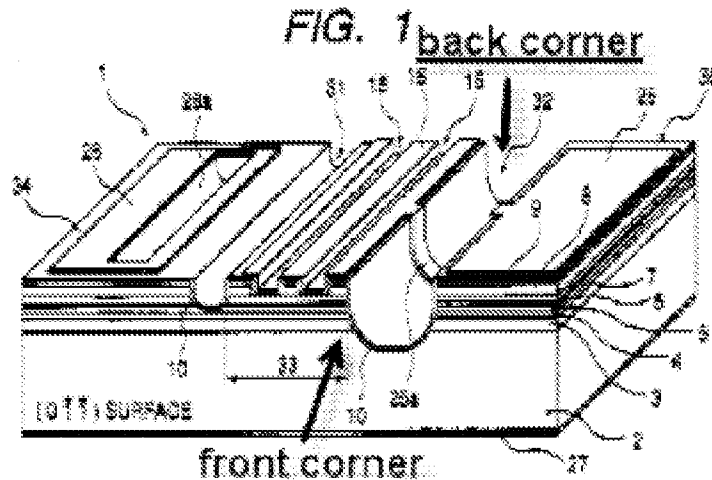
ANALYSIS⁵

Appellants collectively argue independent claims 1 and 9 (App. Br. 4-6; Reply Br. 1-4). Both claims 1 and 9 recite a disputed limitation for a semiconductor laser device having “rounded corners connected to the substrate, in a lower portion of the mesa structure” (Supp. Br. Appendix 1, 2).

The Examiner refers to Nakamura Figures 1 and 2, and reproduced Nakamura Figure 1 with two added identifying labels (Ans. 3, 4). The Examiner’s reproduction of Nakamura Figure 1 with identifying labels, which read “front corner” and “back corner,” is reproduced below.

⁴ Arguments not made by Appellants are deemed to be waived and, therefore, are not considered. *See* 37 C.F.R. § 41.37(c)(1)(vii).

⁵ Throughout this opinion we refer to the Supplemental Appeal Brief filed Oct. 25, 2007 (App. Br.), Examiner’s Answer mailed Feb. 25, 2008 (Ans.), Reply Brief filed Apr. 25, 2008 (Reply Br.), and Supplemental Appeal Brief filed Jan. 21, 2009 (Supp. Br.) for their respective details.



Nakamura Figure 1 Showing a Perspective View of a Semiconductor Laser
with Examiner Labels

From Nakamura, the Examiner finds all of a mesa (33), a substrate (2), and rounded corners formed by isolation region (32) that are connected to substrate (2) (*see* front and back corners as labeled on Nakamura Figure 1) (Ans. 3, 4).

Appellants initially argue that Nakamura shows only one trench (32) that extends into a substrate (2) (App. Br. 5). Appellants point out that both claims 1 and 9 recite “corners” in the plural and contend that each of these claims cover “more than one corner of the mesa structure . . . connected to the substrate” (*id.*). The Examiner responds citing Nakamura Figure 1, and explains that the figure “illustrates the isolation trench (32) formed from the front of the semiconductor laser towards the back, where the arrows . . . indicate a front corner and a back corner. Thereby, the semiconductor laser of Nakamura et al[.] does have ‘corners’ connected to the substrate” (Ans. 4).

In the Reply Brief, Appellants argue the disputed limitation cannot be read on Nakamura's front and back rounded corners. For example, Appellants contend the recited "'rounded corners' clearly indicates that tolerances [understood to mean curves at the bottom of the Nakamura trench (33)] are not what is encompassed by the recitation" (Reply Br. 4). We are not persuaded by such arguments because the claims recite "rounded corners" without a narrowing limitation excluding any curved corner geometry. We agree with the Examiner that Nakamura's Figure 1 teaches the disputed limitation because we also find that the features of the Figure are read on by the disputed limitation. Appellants additionally argue Nakamura is deficient because "the illustrated trench cross-section may have been a drafting choice, but does not appear to have been a deliberate aspect of Nakamura et al's alleged invention" (Reply Br. 3). We are not persuaded by such arguments. Our reviewing court has said, "Description for the purposes of anticipation can be by drawings alone as well as by words." *In re Mraz*, 455 F.2d 1069, 1072 (CCPA 1972) (citation omitted). Further, our reviewing court has explained that "a drawing in a utility patent can be cited against the claims of a utility patent application even though the feature shown in the drawing was unintended or unexplained in the specification of the reference patent." *In re Aslanian*, 590 F.2d 911, 914 (CCPA 1979) (citations omitted).

For the foregoing reasons we will sustain the rejection of claims 1 and 9.

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ORDER

The Examiner's decision rejecting claims 1 and 9 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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